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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,099	11/06/2001	Paul Wollcott Harrison	RM301f	8174

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RICK MARTIN
PATENT LAW OFFICES OF RICK MARTIN, PC
416 COFFMAN STREET
LONGMONT, CO 80501

EXAMINER

EVANS, GEOFFREY S

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 08/27/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

SW
Application No.

09/993,099

Applicant(s)

HARRISON, PAUL WOLLCOTT

Examiner

Geoffrey S Evans

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-- Th MAILING DATE of this communication appears on th cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-3, 10 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-9, 11-17 and 19-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,6. 6) ☐ Other: _____

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DETAILED ACTION

1. The abstract of the disclosure is objected to because on line 3 the word "comprises" is legal phraseology. Correction is required. See MPEP § 608.01(b).
2. Claims 1-3, 10 and 18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No.5.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 4-9, 11-17, and 19-25 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is no disclosure of any specific mixed organic pigment material that is applied to a plastic substrate. It would require undue experimentation to determine which organic pigments would be effective.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 4, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Izoard et al. in EP 419,377 A1. Izoard et al. discloses applying a layer of mixed organic pigment material (at least 3% organic pigment) and using oxides of titanium and chromium oxide as an energy absorbing enhancer. Izoard et al. further discloses irradiating the layer with a radiant energy beam having a wavelength that excites the energy absorbing enhancer. Regarding claim 8, Izoard et al. discloses that the layer has a thickness of 15 microns.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in EP 419,377 A1. Official notice is taken that 70 degrees Fahrenheit is an ambient temperature that is well known to be comfortable for some human beings. It would have been obvious to adapt Izoard et al. to perform the process with this ambient temperature, which is known to be comfortable for the operator.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Ishikawa et al. in Japan Patent No. 60-199,660. Ishikawa et al. teaches using a laminar air flow over the workpiece to prevent fouling of the optics during laser marking. It would have been obvious to adapt Izoard et al. in view of Ishikawa et al. to provide this to prevent fouling of the optics during laser marking.

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10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Sadamoto et al. in Japan Patent No. 8-174,263, Murakami et al. in Japan Patent No. 63-216,790, and Spanjer in U.S. Patent No. 4,654,290. Sadamoto et al. teaches using carbon black as an energy absorbing material in a pigment. Murakami et al. teaches that a laser beam with a wavelength of 1064 nm is easily absorbed by carbon black. Spanjer in U.S. Patent No. 4,654,290 teaches in column 5, lines 7-10 using carbon black to improve color contrast and stabilizes the mixture. It would have been obvious to adapt Izoard et al. in view of Sadamoto et al. and Murakami et al. to provide this to stabilize and increase the absorption of the pigment.

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in EP 419,377 A1 in view of Sadamoto et al. in Japan Patent No. 8-174,263, Kiyonari et al. in U.S. Patent No. 5,035,983 and Emge et al. in U.S. Patent No. 6,037,968. Sadamoto et al. teaches using a laser with a power level no more than 30 watts and a scanning speed of 1mm/second to 400 mm/second (see paragraph 37 of Sadamoto et al.). Kiyonari et al. teaches in column 6, line 3 laser marking with a "spot of suitable size". Emge et al. teaches in column 9, lines 35-36 using a laser beam with a spot size less than 50 microns. It would have been obvious to adapt Izoard et al. in view of Sadamoto et al., Kiyonari et al. and Emge et al. to adjust these parameters to optimize the laser marking process.

12. Claims 11, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in EP 419,377 A1 in view of Suess et al. in U.S. Patent No. 5,985,078. Izoard et al. meets all of the limitations of claims 11 and 20 except using a carrier that is

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placed in contact with the workpiece prior to laser treatment to create a marking on the workpiece. It would have been obvious to adapt Izoard et al. in view of Seuss et al. to provide this so that only part of the workpiece receives the pigment layer.

13. Claims 12, 16, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in EP 419,377A1 in view of Zambounis et al. in U.S. Patent No. 5,840,449. Izoard et al. discloses applying a layer of mixed organic pigment material (at least 3% organic pigment) and using oxides of titanium and chromium oxide as an energy absorbing enhancer. Zambounis et al. teaches (see column 17, lines 37-39) applying a coating by a stencil to only part of the workpiece (which teaches one of ordinary skill in the art that only the part of the substrate that is to be marked has coating applied). It would have been obvious to adapt Izoard et al. in view of Zambounis et al. to apply a layer of mixed organic pigment material using a stencil so that only the pigment material needed is actually applied to the workpiece. Regarding claim 16, Izoard et al. discloses that the pigment material layer has a thickness of 15 microns. Regarding claim 17, official notice is taken that 70 degrees Fahrenheit is an ambient temperature that is well known to be comfortable for some human beings. It would have been obvious to adapt Izoard et al. to perform the process with this ambient temperature, which is known to be comfortable for the operator.

14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Zambounis et al. in U.S. Patent No. 5,840,449 as applied to claim 12 above, and further in view of Ishikawa et al. in Japan Patent No. 60-199,660. Ishikawa et al. teaches using a laminar air flow over the workpiece to prevent fouling of the optics

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during laser marking. It would have been obvious to adapt Izoard et al. in view of Zambounis et al. and Ishikawa et al. to provide this to prevent fouling of the optics during laser marking.

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in EP 419,377A1 in view of Zambounis et al. in U.S. Patent No. 5,840,449 as applied to claim 12 above, and further in view of Sadamoto et al. in Japan Patent No. 8-174,263, Murakami et al. in Japan Patent No. 63-216,790 and Spanjer in U.S. Patent No. 4,654,290. Sadamoto et al. teaches using carbon black as an energy absorbing material in a pigment. Murakami et al. teaches that a laser beam with a wavelength of 1064 nm is easily absorbed by carbon black. Spanjer in U.S. Patent No. 4,654,290 teaches in column 5, lines 7-10 using carbon black to improve color contrast and stabilize the mixture. It would have been obvious to adapt Izoard et al. in view of Zambounis et al., Sadamoto et al., Murakami et al. and Spanjer to provide this to improve color contrast and increase the absorption of the pigment.

16. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in view of Zambounis et al. as applied to claim 12 above, and further in view of Sadamoto et al. in Japan Patent No. 8-174,263. Sadamoto et al. teaches using a laser with a power level no more than 30 watts and a scanning speed of 1mm/second to 400 mm/second (see paragraph 37 of Sadamoto et al.). It would have been obvious to adapt Izoard et al. in view of Zambounis et al. and Sadamoto et al. to provide this to optimize the laser marking process.

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17. Claims 19, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izoard et al. in EP 419,377 A1 in view of Sadamoto et al. in Japan Patent No. 8-174,263. Izoard et al. meets all of the limitations of claims 19,23-25 except Izoard et al. does not appear to specifically disclose that the radiant energy (laser) beam interacting with the marking material forming a bonded layer with the substrate. Sadamoto et al. however teaches that the part of the marking layer that has been treated by the beam remains even after wiping a cloth over the substrate surface (see paragraph 32). It would have been obvious to adapt Izoard et al. in view of Sadamoto et al. to provide this to create a firm mark that has been bonded to the substrate.


18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Robertson in U.S. Patent No. 5,855,969 coats a substrate followed by laser marking. Japan Patent No. 2-235,686 coats a plastic material with an organic pigment that is laser marked.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (703)-308-1653. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703)-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.



Geoffrey S Evans
Primary Examiner
Art Unit 1725

GSE
August 24, 2002